

L 2981-66

ACCESSION NR: AP5025626

SUBMITTED: 12Feb65

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OTHER: 003

ATD PRESS: 4109

BVK

Card 2/2

L 15761-66 EWT(1)/FCC/EWA(d)/EWA(h) GW

ACC NR: AP6006784

SOURCE CODE: UR/0033/66/043/001/0192/0197

AUTHOR: Diyari, N. B.

ORG: Odessa Polytechnical Institute (Odesskiy politekhnicheskiy institut)

TITLE: Charged dust particles in interplanetary space

SOURCE: Astronomicheskiy zhurnal, v. 43, no. 1, 1966, 192-197

TOPIC TAGS: interplanetary space, solar wind, terrestrial magnetic field, electron, ion, terrestrial gaseous tail, dust tail, gegenschein, lunar magnetic dust tail

ABSTRACT: Charged dust particles in interplanetary space are subjected to magnetic action. In free interplanetary space they are under the influence of the solar wind, and near the earth they are influenced by the terrestrial magnetic field. The electric potential of dust particles is generated by the interaction with electrons and ions of interplanetary space and the photoeffect of ultraviolet and x-radiation of the sun. Instead of the hypothetical terrestrial gaseous tail, a dust tail is introduced. The brightness of the gegenschein is easier to account for with dust particles than with gas molecules. If the terrestrial magnetic tail consists of dust, the moon must also have a magnetohydrodynamic tail made of dust. The lunar influence on the dust surrounding the earth cannot be explained by gravity alone; it is possible that the lunar magnetic tail exerts an influence on reaching the earth. The influence of lunar phases on the twilight intensity is considered as indirect

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UDC: 523.59

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ACC NR: AP6006784

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proof of the existence of a lunar magnetic dust tail. An hypothesis is formed that the lunar magnetic field is forced by solar wind to the surface and also into the interior of the lunar body. Meteoric impacts cause dust on the surface which is blown off by solar wind. A series of formulas is developed which analyzes the action of gravity, light pressure, and the Lorentz forces on the terrestrial dust cloud. The action of these forces was computed for particles of various dimensions and given in a table in the original article. At the earth's surface the geomagnetic force is stronger than the Lorentz force of the solar wind. At a distance of five terrestrial radii from the earth's center, the two forces are equal. Farther away the force of the solar wind predominates. The use of formulas and results of computations are considered as support for the hypothesis. Orig. art. has: 1 table and 9 formulas.

[EG]

SUB CODE: 04/ SUBM DATE: 11May65/ ORIG REF: 012/ OTH REF: 021/ ATD PRESS:

03/

4206

Card 2/2 57m

L 24109-66 EWT(1)/FCC GW

ACC NR: AP6008765

SOURCE CODE: UR/0030/66/000/002/0154/0155

AUTHOR: Divari, N. B. (Candidate of physico-mathematical sciences)

ORG: none

TITLE: Optical instability of the terrestrial atmosphere

SOURCE: AN SSSR. Vestnik, no. 2, 1966, 154-155

TOPIC TAGS: atmosphere, twilight, photographic equipment, meteorologic conference, IR spectrum, stellar photography, atmospheric transparency, optic property

ABSTRACT: A conference of the Commission on the Optical Instability of the Terrestrial Atmosphere of the Astronomical Council of the Academy of Sciences USSR took place in Pulkovo from 30 November to 2 December 1965. The main topic of the conference was the investigation of properties of the terrestrial atmosphere. Representatives of 22 scientific institutes and universities participated in the discussions. V. G. Fesenkov reported on his method of using twilight brightness to study the optical properties of the upper atmosphere. This method makes it possible to carry out systematic investigations at a ground station, and its equipment is inexpensive, especially in comparison with that of the geo-

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physical-rocket method. Methods used in different observatories were discussed and their errors evaluated. Ye. V. Gnilovskoy gave an account of investigations of twilight in the infrared spectral range which are very important for studies of the composition and structure of the upper atmosphere. N. B. Divari described results of theoretical investigations of primary and secondary twilight for the mean standard atmosphere, taking the ozone and the dust components into account.

Special interest was expressed in rapid-exposure stellar photography. V. V. Prokof'yeva and A. A. Abramenko discussed highly sensitive electronic photographic instruments. These instruments are suitable for use under good atmospheric conditions. N. F. Kuprovich and A. Kh. Kurmayeva described the statistical possibility of using television images of the stars to determine atmospheric instability.

Many reports were concerned with atmospheric transparency. Ye. V. Pyaskovskaya-Fesenkova explained her method for freeing the indicatrix of dispersion from multiple scattering and the reflection from the ground. Her formula for the directivity coefficient of dispersion yielded good re-

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sults when the optical depth of the atmosphere was taken as equal to 0.2.  
A method for determining the transparency coefficient for various parts of  
the spectral range from 0.4 to  $13\mu$  was offered by the Astrophysical Insti-  
tute of the Kazakh Academy of Sciences. [ATD PRESS: 4215-F]

SUB CODE: 04, 03, 20, 14 / SUBM DATE: none

Card 3/3 *AW*

L 29257-66 ENT(1)/FCC GW

ACC NR: AP6019304

SOURCE CODE: UR/0203/65/005/004/0777/0780

AUTHOR: Divari, N. B.; Krylova, S. N.

ORG: Odessa Polytechnic Institute (Odesskiy politekhnicheskiy institut)

TITLE: Results of photoelectric observations of zodiacal light

SOURCE: Geomagnetizm i aeronomiya, v. 5, no. 4, 1965, 777-780

TOPIC TAGS: zodiacal light, photoelectric property

ABSTRACT: Measurements of the brightness of zodiacal light were made at Kamenskoye Plato Observatory, using an electrophotometer. Green and blue glass filters were used for separating out the parts of the spectrum with effective wavelengths at  $\lambda$  520 and 470 m $\mu$ . The diaphragm used cut out a circle in the sky with an area of 13 square degrees. Measured brightnesses were expressed in the number of stars of the tenth magnitude of class G<sub>2</sub> per square degree. The brightness of the evening zodiacal light in the northern part of the sky on the average was approximately twice as great as the brightness of the morning zodiacal light. However, in the southern part of the sky their brightnesses virtually coincide. The color of the zodiacal light can be characterized by the value  $2.5 \log (I_{\text{green}}/I_{\text{blue}})$ . Although along the ecliptic there is reddening of luminescence, there is no basis for assuming that there is a real dependence of the color of zodiacal light on elongation. Using measurements at 166 points of the cone of zodiacal light it was found that  $2.5 \log (I_{\text{green}}/I_{\text{blue}}) = -0.027 \pm 0.016$ . Since the corresponding value for the sun is zero, it can be concluded that zodiacal light virtually coincides with the color of the sun. Orig. art. has: 4 figures and 8 tables.

SUB CODE: 04 / SUBM DATE: 27 Aug 64 / ORIG REF: 004

Cord 1/1 CC/

UDC: 551.593.653

33  
B

[JPRS]

L 29562-66 EWT(1)/FCC GW

ACC NR: AP6019672

SOURCE CODE: UR/0033/66/043/003/0593/0597

AUTHOR: Divari, N. B.

21  
B

ORG: Odessa Polytechnic Institute (Odesskiy politekhnicheskiy institut)

TITLE: Reduction of photometric measurements of the zodiacal light for the influence of twilight radiation

SOURCE: Astronomicheskiy zhurnal, v. 43, no. 3, 1966, 593-597

TOPIC TAGS: zodiacal light, twilight, solar depression, atmospheric scattering

ABSTRACT: A computational method of accounting for the influence of the twilight radiation component on the observed brightness of zodiacal light during photometric measurements is outlined. Tables of the brightness of the twilight component compiled for an average model of the Earth's atmosphere for various zenithal distances and azimuths are given. Computations were made on the Ural-2 computer for the CIRA 1961 average-atmosphere model having a total ozone content of 0.300 cm. Tabular data based on these computations indicate that at solar depressions of 16°—20°, corrections for the twilight component considerably exceed those for tropospheric scattering of zodiacal light, indicating a strong twilight effect on zodiacal light. At depressions exceeding 24°, however, the situation is reversed and the scattering factor becomes more dominant. The twilight component reaches a substantially significant value in observations along an almucantar of 70°—80°. The brightness values

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of zodiacal light at small elongations obtained from photometric observations that do not take the twilight component into account are elevated. Owing to the varying amount of dust in the terrestrial atmosphere and variations in the coefficient of atmospheric transparency, twilight brightness varies from day to day. It is therefore recommended that twilight observations be made far from the cones of zodiacal light when determining the twilight component. Orig. art. has: 3 tables and 4 formulas.

[DM]

SUB CODE: 04/ SUBM DATE: 25Sep65/ ORIG REF: 007/ OTH REF: 003/ ATD PRESS 5114

Card 2/2 CC

KUCHMA, Kalinik Grigor'yevich.; PROKHORSKIY, Aleksandr Alekseyevich.;  
DIVAVIN, Nikolay Ivanovich.; BELYAYEV, I.A., inzh.; red.; BOBROVA,  
Ye.N., tekhn. red.

[Electric stations and traction substations] Elektricheskie stantsii  
i tiagovye podstantsii. Moskva, Gos. transp. zhel-dor. izd-vo, 1958.  
654 p. (MIRA 11:11)

(Electric railroads--Substations)  
(Electric power plants)

AVAYEV, Sergey Aleksandrovich; GAL'PERIN, Mikhail Moiseyevich;  
KRYLOV A.P., retsenzent; DIVAVIN, N.I., retsenzent;  
AGADZHANOVA, I.A., red.

[Fundamentals of mechanization and automation in the  
textile industry] Osnovy mekhanizatsii i avtomatizatsii  
proizvodstva v tekstil'noi promyshlennosti. Moskva, Izd-  
vo "Legkaia industriia," 1964. 245 p. (MIRA 18:1)

ACC NR: AF7C07605

SOURCE CODE: UR/0030/66/000/010/009E/0099

AUTHOR: Divay, E. A. (Candidate of Physico-Mathematical Sciences  
ORG: none

TITLE: Meeting of commission on the physics of stars and nebulae

SOURCE: AN SSSR. Vestnik, no. 10, 1966, 98-99

TOPIC TAGS: astronomic conference, star, nebula, cosmic radio source

SUB CODE: 03

ABSTRACT:

The Commission on the Physics of Stars and Nebular of the Astronomical Council of the Academy of Sciences USSR hold a conference in Gor'kiy on 21-23 June which was devoted to cosmic nonthermal radiation. It considered three problems: the mechanism of nonthermal radiation, nonthermal radiation in stars and nonthermal radiation in galaxies. A review report on the nonthermal mechanisms of radioemission, taking into account the plasma properties of the cosmic medium, was given by S. A. Kaplan. The speaker noted that for an explanation of the intense radiation of small radio sources it is necessary to invoke coherent mechanisms. Such a mechanism may be negative synchrotron reabsorption; strong emission also may arise from nonlinear interactions of plasma and electromagnetic waves. I. S. Shklovskiy considered the recent discovery of radio emission of OH hydroxyl molecules. This emission undoubtedly has a nonthermal character, as is indicated by the high brightness temperature and at the same time the small width of the line and also the strong polarization and rapid variability of the line pro-

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ACC NR: AP7007605

file. Such properties of the emission of the OH line are a demonstration of the operation of a "cosmic maser" in interplanetary space. A review report on nonthermal radiation in stars was given by V. G. Gorbatskiy. He presented facts applying to different types of variables (flare stars, symbiotic stars, T Tau type). G. A. Gurzadyan, in discussing flare stars, proposed a hypothesis on the appearance above the star photosphere of a cloud of slightly relativistic electrons (with energies of about  $10^6$  eV). He feels that the observed blue color of the flares can be attributed to the inverse Compton effect of such electrons for the infrared quanta of the star. Two communications dealt with factual data obtained using the 2.6-m reflector of the Crimean Astrophysical Observatory. A. A. Boyarchuk told of spectral investigations of symbiotic stars. Their basic observational characteristics are explained well using a model of a binary surrounded by a small gas nebula with a mass approximately 100 times less than the mass of a typical planetary nebula. Observations of flare stars were considered in a report by R. Ye. Gershberg. The use of a spectrograph with an image converter made it possible to obtain spectra of flares with a time resolution approaching several seconds. It was found that the photometric, color and spectral changes in the star at the time of a flare caused the appearance of a cloud of hot gas over its photosphere. V. I. Slysh presented a review of data on the radiation of radio galaxies and quasars in the radio range. He noted that at the present time 144 of

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the 296 sources in the third Cambridge Catalogue have been identified with radio galaxies and 60 with quasars. The radio galaxies are distributed evenly in space whereas the spatial density of quasars increases with an increase of distance. The radiation mechanism for radio galaxies is synchrotron, as is indicated by the power-law character of the spectrum and considerable polarization. Among the quasars there is a predominance of sources of small angular dimensions and with curved spectra.

JPRS: 39,180/

Card 3/3

DIYALOVA, V. P.

"Dynamics of the Physical Development of Preschool and School Children in the City of Tashkent for a 25-Year Period (1925-1950)." Dr Med Sci, Tashkent Medical Inst, 10 Mar 54. Dissertation (Pravda Vostoka Tashkent, 28 Feb 54)

SO: SM 186, 19 Aug 1954

GROH, Jindrich; DIVECKY, Vladislav

Spectrofluorometry. Sborn. ved. prac. lek. fak. Karlov. Univ.  
8 no. 4:481-484 ' 65.

1. 1. interni klinika (prednost: prof. MUDr. F. Cernik)  
a Ceskoslovenske naftove motory, Plotiste nad Labem (podnik.  
red. C. Vrac).



Diver, M.

TECHNOLOGY

REVISTA CONSTRUCTILOR SI A MATERIALELOR DE CONSTRUCTII. Vol. 10, no. 9,  
Sept. 1958.

Utilization of used railroad rails for building purposes. p.574.  
The STASA installation, a new producing floor and roof slabs. II. p.580.

Monthly List of E<sub>a</sub>st European Accessions (EEAI), LC, Vol. 8, No. 3,  
~~May~~ 1959, Unclass.  
March

DIVEYEV, M. V., CHIEF ENGR

USSR/Geophysics - Volga-Don Canal

May 52

"Karpov Waterworks," M. V. Diveyev, Chief Engr,  
Karpov Waterworks

"Nauka i Zhizn'" Vol 19, No 5, pp 6-9

States that soon a navigational canal will connect Volga and Don; 320 million cu m of water will be required to fill it. The water, 1st pumped into Karpov, will be led to Marinovo waterworks and from there into Bereslavsk water tanks; then it will be pumped to Varvarovo station, whence to flow spontaneously to the Volga.

230T56

TROYEPOL'SKIY, V.N., inzh.; DIVEYEV, P.A., inzh.

Welding and surfacing with powder wire. Transp. stroi. 13 no.7:36-  
38 JI '63. (MIRA 16:9)

(Electric welding)

TROYEPOL'SKIY, V.N., inzh.; DIVEYEV, P.A., inzh.; ARTYUKOV, M.I., inzh.

Electric contact welding in rail-welding trains. Trans. stroi.  
13 no.8:14-17 Ag '63. (MIRA 17:2)

DIVEYEV, R.Kh.; GORELOV, Ye.P., kand. sel'skokhoz. nauk; YEDGAROV, D.

Intensive use of irrigated Sierozems. Zemledelie 26 no.9:12-13  
S '64. (MIRA 17:11)

1. Samarkandskiy sel'skokhozyaystvennyy institut (for Diveyev, Gorelov). 2. Glavnyy agronom sovkhoza "Dagbid" Poyarykskogo proizvodstvennogo upravleniya, Samarkandskoy oblasti (for Diveyev). 3. Samarkandskaya zonal'naya opytnaya stantsiya (for Yedgarov).

DIVEYEV, R. Kh.

Law of the iterated logarithm for uniform stochastic processes  
with dependent increments. Trudy Inst. mat. i mekh. AN UzSSR  
no. 10 pt. 1: 44-49 '52. (MIRA 8:9)

(Probabilities)

DIVEYEV, R.Kh.

Application of the theory of decision functions in the economic  
evaluation of acceptance-inspection methods. Trudy Inst. mat. i  
mekh. AN Uz. SSR no.17:45-65 '56. (MLRA 10:4)  
(Statistical decision) (Quality control)

0992/Δ05

# BOOK EXPLOITATION

PHASE 1 BOOK 2-11

16(1)

Vsesoyuznyy matematicheskiy s'ezhd. 3Yu, Moscow.  
Vsesoyuznyy matematicheskii seksionnykh dokladov. Doklady  
Trudy. t. 4; Kratkiye soobshcheniya sektiornykh dokladov. Doklady  
inostrannykh uchenykh (Transactions of the 3rd All-Union Mathematics  
Congress. vol. 4; Summary of Sectional Reports,  
Moscow, 1979).

Reports of foreign countries  
247 p. 2,200 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Matematicheskoye  
241 57  
Tech. Ed.: G. N. Shvachko; Editorial Board: A. A. Abramov, V. O.  
K. A. Bol'shakov, A. M. Vasil'yev, B. V. Medvedev, A. D. Myshkis, S. M.  
Kiselevsky (Resp. Ed.), A. O. Postnikov, Yu. V. Prokhorov, K. A.  
Nymkov, L. L. Ulyanov, V. A. Uspen'skiy, M. O. Chetaev, O. Ye.  
Nymkov, and A. I. Shirshov.

**PURPOSE:** This book is intended for mathematicians and physicists interested in the Transactions of the Third All-Union Conference on Mathematical Physics, July 1966. The

**COPYRIGHT:** The book is Volume IV held in June and July 1970 at the International Mathematical Conference, Moscow. The first part contains some 60 papers divided into two main parts. The first part contains the proceedings of the conference as presented by Soviet scientists. The second part contains the text of reports submitted to the editor for publication by non-Soviet scientists. In those cases where the title of a paper is cited and, if appropriate volume, the author's name is given, a copy of his paper was printed in a previous issue of the journal. This reference is made to cover various topics in both Soviet and non-Soviet integral equations, function theory, algebra, differential probability theory, topology, mathematical functional analysis and physics, computational mathematics, problems of logic and the foundations of mathematics, and the foundations of mathematical mathematics.

Bobrov, A.A. (Odessa). The Method of arbitrary functions for limit distributions. 61

on laying foundations for limit theorems  
Volkovskiy, V.A. (Moscow). Multidimensional limit theorem  
the number of states

the Markov chains with countable number of states.  
Davyev, B. Kh. (Tashkent). Essentially complete classes of  
counting rules for the determination of the probability of  
a stochastic process

Usov, V.M. (Moscow). Kinetic equation for neutrons, taking the state of a homogeneous stochastic process into account. *Journal of Nuclear Energy, Part C*, 1969, Vol. 10, No. 1, pp. 1-10. (English)

into consideration the movement of the nucleus  
Moshalkin, L.D. (Moscow). One-dimensional integral theorems  
for the case of a nucleus of a series of experiments connected  
for the case of a nucleus of a series of experiments connected

Petrov, V.V. (Leningrad). Local limit theorem for densities 65

Pugachev, V.S. (MOSCOW). Probability methods in the theory of automatic control. Card 17/34



16(1), 16(2)

AUTHOR: Diveyev, R.Kh.

SOV/166-59-1-5/11

TITLE: An Essentially Complete Class of Decision Rules for the Determination of the Probability of a State (Sushchestvenno polnyy klass reshayushchikh pravil dlya opredeleniya veroyatnosti sostoyaniya)

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR, Seriya fiziko-matematicheskikh nauk, 1959, Nr 1, pp 45-54 (USSR)

ABSTRACT: Let  $x = (x_1, x_2, x_3, \dots)$ , where  $x_k$  assumes the values 1 or 0 with the probabilities  $q$  and  $p = 1-q$  for all  $k=1,2,3,\dots$ . Let the probability be unknown, it has to be estimated by experiments. Let  $0 \leq q_0 < 1$ . The problem consists in the estimation of the assumptions

$$H_1 (q < q_0) \text{ and } H_2 (q > q_0).$$

The solution is performed with the aid of the theory of decision functions of Wald [Ref 1]. The first part of the present paper is already published [Ref 2]. Now, with the aid of these results an essentially complete class of decision rules is given which satisfy certain specific

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An Essentially Complete Class of Decision Rules  
for the Determination of the Probability of a State

SOV/166-59-1-5/11

conditions. By two examples the author demonstrates the applicability of the class for the solution of the initial problem.

There are 2 references, 1 of which is Soviet, and 1 American.

ASSOCIATION: Institut matematiki i mekhaniki AN Uz SSR (Institute of Mathematics and Mechanics AS Uz SSR)

SUBMITTED: December 1, 1958

Card 2/2

DIVEYEV, R.Kh.

One property of sufficient statistics. Dokl. AN Uz.SSR no.2:7-10  
'59. (MIRA 12:4)

1. Institut matematiki i mekhaniki im. V.I. Romanovskogo AN UzSSR.  
Predstavleno akademikom AN UzSSR T.A. Sarymasakovym.  
(Probabilities)

16(1)

AUTHOR: Diveyev, R.Kh.

SOV/166-59-2-3/11

TITLE: An Essentially Complete Class of Two-Step and Successive Rules for the Determination of the Probability of a State (Sushchestvenno polnyy klass dvukhstupennykh i posledovatel'nykh pravil dlya opredeleniya veroyatnosti sostoyaniya)

PERIODICAL: Izvestiya Akademii nauk Uzbekskoy SSR, Soriya fiziko-matematicheskikh nauk, 1959, Nr 2, pp 14-25 (USSR)

ABSTRACT: In the present paper the author extends the results of [Ref 1] to classes of decision functions. Five theorems are given, the proofs of which partially are already published in [Ref 3]. There are 3 references, 2 of which are Soviet, and 1 American.

ASSOCIATION: Institut matematiki i mekhaniki imeni V.I.Romanovskogo AN Uz SSR (Institute of Mathematics and Mechanics imeni V.I.Romanovskiy AS Uz SSR)

SUBMITTED: October 22, 1958

Card 1/1

16.6200

S/044/60/<sup>22592</sup>000/010/016/021  
C111/C333

AUTHOR: Diveyev, R.Kh.

TITLE: An essentially complete class of decision functions for homogeneous processes with two states

PERIODICAL: Referativnyy zhurnal, Matematika, no. 10, 1960, 138, abstract 11913. (Tr.In-ta matem. i mekhan. AN UzSSR, 1957, vyp.20, 15-34)

TEXT: The author considers successive decision functions for a homogeneous process with two states and unknown parameter  $q$  in the case of two possible decisions. The general theory of decision functions (Wald, A., Statistical decision functions, New York-London, Wiley and Sons, 1950) is used in order to describe an essentially complete class of decision functions for a homogeneous process under the following suppositions: a) the loss function  $W_1(q)$  of the first decision is a nondecreasing continuous function of  $q$ ;  $W_1(q)=0$  for  $q \leq q_0$ ;  $W_1(q) > 0$  for  $q > q_0$ ; b) the loss function of the second decision  $W_2(q)$  is a nonincreasing continuous function of  $q$ ,  $W_2(q) > 0$ ,  $q \leq q_0$ ;  $W_2(q)=0$ ,  $q > q_0$ ; c) the apriori distribution density  $\varphi(q)$  is bounded. The class  $A$  of decision rules is defined as follows: The decision rule  $t$  which depends on the possible observation results  
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An essentially complete class...

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C111/C333

only by  $u_n = \sum_{k=1}^n x_k$ , is said to belong to the class A, if 1) t determines the closed interval  $M_n(t) = [m_{1n}(t), m_{2n}(t)]$ ; 2) the decision  $d_1$  comes, if  $u_n \leq m_{1n}$ ; 3) the decision  $d_2$  comes, if  $u_n \geq m_{2n}$ ; 4) an intermediate decision comes, if  $m_{1n} < u_n < m_{2n}$ . It is proved that, under the suppositions a), b), c) and for a set compact in itself of apriori distributions, A is an essentially complete class. Furthermore, the cut-off property of the biased decisions with respect to n is proved.

Note of the reviewer: The given results have been formerly published under more general suppositions in the paper of Mikhalevich, V.S. (RZhMat, 1957, 8834).

[Abstracter's notes: Complete translation.]

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16.6100 16.6200

<sup>26512</sup>  
S/044/61/000/004/027/033  
C111/C222

AUTHOR: Diveyev, R.Kh.

TITLE: Deciding minimax - rules and in the mean minimizing rules for homogeneous stochastic processes

PERIODICAL: Referativnyy zhurnal. Matematika, no. 4, 1961, 8,  
abstract 4 V 77. ("Tr. In-ta matem. i mekhan. AN Uz SSR",  
1957, vyp 20, 35-45)

TEXT: A physical system is submitted to a sequence of observations. In every moment the system may be either with the probability  $p$  in the state A or with the probability  $q$  in the state B. In the state A the system yields the "receipts"  $\alpha$ , in the state B it yields the "loss"  $\beta$ . The process can be stopped at every moment of observation. For

$q < q_0 = \frac{\alpha}{\alpha + \beta}$  the process is economically advantageous, for  $q > q_0$  it is disadvantageous. The minimax - rule on the stopping or continuation of the process consists in the following: If among  $n$  observations for not more than  $c$  the system was in the state B then the process is continued, in the contrary case it is stopped. The optimal value  $c = c_0$  and the

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Deciding minimax - rules and in the ...

values  $q_1$  and  $q_2$  which minimize the risk function are determined from the relations

$$\sum_{m=c_0+1}^n C_n^m q_1^m (1-q_1)^{n-m} = (q_1 - q_2) n C_n^{c_0} (1-q_1)^{n-c_0-1} q_1^{c_0} \quad (6)$$

$$\sum_{m=0}^{c_0} C_n^m q_2^m (1-q_2)^{n-m} = (q_2 - q_1) n C_n^{c_0} (1-q_2)^{n-c_0-1} q_2^{c_0} \quad (7)$$

$$(q_1 - q_2)^2 n C_n^{c_0-1} (1-q_1)^{n-c_0-1} q_1^{c_0} = (q_2 - q_1)^2 n C_n^{c_0-1} (1-q_2)^{n-c_0-1} q_2^{c_0} \quad (8)$$

For large  $n$  the author replaces approximately the binomial distribution by the Poisson distribution or by the normal distribution and reduces the equations (6)-(8) in the first case to a form being suitable for a solution with the aid of the Poisson distribution tables, while in the second case it holds  $c_0 = nq_0$ . Furthermore, the author gives a method

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for obtaining a decision rule for which for a given distribution of  $q$  the mean loss is minimized. The author considers a generalization of the initial scheme for which the states of the system are connected in a homogeneous Markov chain.

[Abstracter's note : Complete translation.]

Card 3/3

ROMANOVSKIY, V.I., akademik; SARYMSAKOV, T.A., akademik, otv. red.;  
DIVEYEV, R.Kh., red.; NAGAYEV, S.V., red.; MALEVICH, T.L.,  
red.; RONZHIN, V.I., red.; EYDEL'NANT, M.I., red.;  
KISELEVA, V.N., red.; GOR'KOVAYA, Z.P., tekhn. red.

[Mathematical statistics] Matematicheskaya statistika.  
Tashkent, Izd-vo Akad. nauk UzSSR, Book 2. [Operational  
methods of mathematical statistics] Operativnye metody ma-  
tematicheskoi statistiki. 1963. 794 p. (MIRA 16:5)

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